Bradley **Kohler**

MECHATRONICS ENGINEER · UNIVERSITY UNDERGRAD

Waterloo, ON, Canada

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Skills

My skills include but are not limited to:

- BASH, C/C++, Python and Java
- Microcontroller and Microprocessor firmware (MATLAB/Simulink, Labview, ARM Mbed, STM32, Nordic, Qualcomm Snapdragon)
- Embedded Operating Systems (Linux, mbedOS, ChibiOS, FreeRTOS)
- PCB hardware design (Verilog HDL, NI Multisim, Eagle)
- Systems design (Maplesim, AutoCAD, SolidWorks)
- Mathematics (Maple18, numpy, Eigen, MATLAB)

Work Experience

Northern Digital Inc.
Waterloo, Ontario

ADVANCED RESEARCHER & FIRMWARE DEVELOPER · *May 2018 - Sept. 2019*

- Designed and programmed embedded C firmware for active tool tracking probe with sensor data fusion for 3DG system.
- Designed and implemented three sensor data fusion algorithms for 3D tracking systems including 3DG anise fusion, local attitude estimation and local gravity estimation.
- Developed Python libraries for sensor fusion visualization and statistical analysis.
- Developed C application for 3DG inertial data simulation.
- Developed embedded C sensor drivers for ARM processors using low level HAL with platforms Nordic, Snapdragon and STM32.
- Worked with embedded C libraries for signal generation and reception.

McMaster University
Hamilton, Ontario

STUDENT RESEARCHER & TEACHING ASSISTANT · *May. 2015 - Dec. 2015 & May 2017 - Sept. 2017*

- Developed embedded C software for safety critical systems.
- Implemented pacemaker stateflow on MATLAB simulink which was uploaded to a custom prototype PCB.
- Produced software documentation for system design.
- Prepared lessons for students and presentations for laboratories.
- Graded student software laboratory test submissions.

Emnor Mechanical Inc.
Hamilton, Ontario

SOFTWARE DEVELOPER & MECHANICAL REPAIRMAN & SHOP EMPLOYEE · *May 2015 - Sept. 2015 & May 2016 - Sept. 2016*

- Developed inventory management software for large warehouses.
- Developed large SQL databases for thousands of orders and parts using Microsoft Access.
- Managed company payroll, invoices and purchase orders.
- Reverse engineered old damaged parts and produced CAD drawings using Faro Arm.
- Disassembled, repaired and reassembled centrifugal pumps.
- Maintained company shipping department and inventory.

Education

McMaster University
Hamilton, Ontario

MECHATRONICS ENGINEERING CO-OP · *Sept. 2014 - PRESENT*

- Mechatronics IV
- McMaster Annual Award Scholarship
- McMaster Entrance Award Scholarship

Galt Collegiate Institute
Cambridge, Ontario

SECONDARY SCHOOL GRADUATE · *Sept. 2010 - June 2014*

- 150th Anniversary Award Recipient
- Honors Student